

and Regulatory Accountability) had high internal validity and good internal factor structure. The congruence between TSE and Scholar self-ratings were uniformly high, and discordance was often a function of “confidence” and “modesty” on the part of the scholar, rather than deficiency. Supporting comments were informative about performance barriers and mechanisms for improvement. Return of results allowed for the exploration of training gaps. Scholars were surveyed to gauge their reaction to the formal feedback. DISCUSSION/SIGNIFICANCE OF IMPACT: This quantification of team science leadership constructs has allowed for A)- the articulation of constructs essential for successful Translational Scientists to acquire during their training, B)- identification of gaps in that training and skill set, and C)- mechanisms for bolstering any identified gaps in these essential leadership constructs. CONFLICT OF INTEREST DESCRIPTION: None

4027

Collaborative Working Retreats for Interdisciplinary Investigators and Engaged Stakeholders as a Tool for Sparking Creativity and Accelerating the Development of Translational Research Projects

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OBJECTIVES/GOALS: As part of the Cleveland CTSA, “Collaborative Working Retreats” have been developed for the purpose of being a catalyst to move groups of interdisciplinary investigators and stakeholders to collaborative research teams with feasible and actionable translational research projects. METHODS/STUDY POPULATION: Groups of interdisciplinary investigators with engaged stakeholder(s) were invited to apply. Selected groups participated in a 4-hour, professionally facilitated retreat, tailored to the unique needs of each team. In addition to the facilitator, a graphic recorder was utilized to capture ideas and aid in decision making by creating a visual narrative linked to the team’s overall vision. Teams were charged with generating three translational research projects and writing a formal Team Action Plan (TAP) by two months post retreat. Retreat participants were asked to complete a survey to evaluate the retreat, and structured interviews were conducted with team leaders 4-6 months post retreat. RESULTS/ANTICIPATED RESULTS: Six groups were awarded retreats, comprised of 48 investigators (representing all schools in the university and 3 of 4 affiliated hospital systems) and 28 stakeholders for a total of 76 participants. 45% completed the followup survey. 77% said they would recommend the service to other teams or would use it again themselves and 97% stated their team benefited from having a facilitator. At 2 month follow up, one team had completed the TAP and subsequently applied for federal funding. However, 4 of the remaining 5 teams indicated that they had made significant progress, attributing progress to their retreat time. Each teams’ progress is being tracked for 2 years, using a newly developed metric. DISCUSSION/SIGNIFICANCE OF IMPACT: Facilitated retreats appear to serve as an important catalyst for progression of translational research projects, providing needed time and support for brainstorming and planning. Lessons learned, pre-retreat work, and tools for tailoring retreat content and tracking progress will be presented.

4375

Developing team science for practical applications of artificial intelligence in health systems to improve value and outcomes: A case study in reducing avoidable emergency department use

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OBJECTIVES/GOALS: Health care systems are complex, dynamic, and varied. Advances in artificial intelligence (AI) are enabling healthcare systems to use their own data to elicit patterns and design suitable interventions. To realize this potential, computer scientists and clinicians need an effective, practical, and replicable approach to collaboration METHODS/STUDY POPULATION: In this study, computer scientists partnered with clinicians to investigate predictors of avoidable emergency department use. The team sought an approach to computational medicine that could increase the relevance and impact of prediction to solve pressing problems in the health system. The team adopted an emergent architecture that engaged system leaders, computer scientists, data scientists, health services researchers, and practicing clinicians with deep ambulatory and inpatient knowledge to form the initial questions that shaped the prediction model; to understand nuances of coding and recording in source data and the implications for models; and to generate insights for promising points of intervention. The team recorded decisions and challenges as it progressed to analyze its function. RESULTS/ANTICIPATED RESULTS: Most avoidance models focus on a narrow time period around target events, or on high cost patients and events. This interdisciplinary team used their insights into the health system’s workflows and patient population to adopt a longitudinal approach to their prediction models. They used AI to build models of behavior in the system and consider prevention points across clinical units, time, and place. The holistic, systemwide focus enabled the team to generate insights that the system leaders and subsequently specific clinical units could apply to improve value and outcomes. A facilitated team process using learning system and cooperative network principles allowed a large and modular interdisciplinary team to build a transparent AI modeling process that yielded actionable insights into hypercomplex workflows. DISCUSSION/SIGNIFICANCE OF IMPACT: An architecture for involving diverse stakeholders in computational medicine projects can increase the relevance and impact of AI for solving care delivery problems in complex health systems. Translational science and computational medicine programs can foster this type of engagement and encourage a whole system perspective.

4265

Effect of individual characteristics, healthcare access, and built environment on care coordination outcomes related to cardiovascular disease risk factors

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OBJECTIVES/GOALS: We examined how individual characteristics and characteristics of the socioeconomic and built environment were

associated with care coordination's effect on cardiovascular disease (CVD) risks to identify geographic areas that may benefit from supplementary clinic-community linkages. **METHODS/STUDY POPULATION:** We analyzed data with geocoded residential addresses and data from electronic health records for 9946 adults from a Centers for Medicare & Medicaid Services funded innovation project from 7/1/2013 to 3/30/2015. Variables included patient-level demographics, Elixhauser comorbidity index, total time with a nurse care manager, and neighborhood factors such as poverty indicators, walkability, and social capital index. Outcomes were change in CVD risk factors, hemoglobin A1C, blood pressure (BP), and low-density lipoprotein (LDL). Generalized linear models were used to assess the effect of nurse care management program on outcomes after controlling for confounding factors. **RESULTS/ANTICIPATED RESULTS:** We report preliminary models that include patient demographics (age, sex, race), health care utilization, nurse care manager contact time, Elixhauser comorbidity index, neighborhood education status, percent of population below 200% federal poverty level, median home value, walkability score of the residential address, and social capital index. After adjusting for all mentioned variables, in adults with HbA1C more than 7.5% at baseline, females had worsening HbA1C by 0.53% over the study period. Additionally, LDL values in females worsened over the study period by 4.8 mg/dL after adjusting for all variables. No clinically significant changes were noted for BP. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Women's HbA1C and LDL worsened despite nurse care management and may benefit from additional community-based interventions or interventionists. In future analyses, we anticipate that CVD risk will worsen for patients with higher fast food proximity and with greater geographic distance from their PCP.

4556

Gender homophily in translational collaborations; a network analysis study of investigators at one academic medical center

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OBJECTIVES/GOALS: Collaborations are at the core of translational science and team science. Differences by gender have been identified in various research contexts from recruitment to retention to promotion. This study assesses the relational associations of translational collaborations, and what role of gender. **METHODS/STUDY POPULATION:** In 2011 and 2013, clinical and basic sciences investigators at University of Rochester School of Medicine and Dentistry responded to an online survey nominating their research collaborators. Two study years were merged, and name lists were transformed into a collaboration network. Departments were classified into basic sciences (e.g. biochemistry) and clinical (e.g. urology). If respondent and partner were affiliated to different department classes, the collaboration was defined as translational. Multi-level GLM models were developed to assess the associates of the likelihood of translational vs. within discipline collaborations. Partner nominations were nested in respondents. **RESULTS/ANTICIPATED RESULTS:** 202 respondents were included in the multi-level GLM models. A collaboration was more likely to be translational if the respondent shared more collaborators with the partner (OR:1.13), and respondent was a central actor in collaboration network (OR: 1.2). Translational collaborations were less likely to be reported by clinicians (OR: 0.25). In the model to assess gender match, a collaboration was more likely to be translational if the respondent was male,

and nominated a male partner. For both genders, collaboration with a partner of the opposite gender was more likely to be translational if respondent had more shared collaborators with the partner. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Translational collaborations happen in teams. Gender homophily exists in translational collaborations, and is reduced by shared collaborators; implying the effect of personal connections and community membership. Community-building interventions may increase diversity in translational collaborations.

4203

Re-engineering the Approach to Extremely Preterm Breech Deliveries with Student Led Team Science

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OBJECTIVES/GOALS: Vaginal delivery is typically avoided in extremely preterm breech fetuses due to the concern for head entrapment by the cervix. Development of a device to prevent head entrapment would be best addressed by a multidisciplinary approach incorporating engineering principles with clinical obstetrics. **METHODS/STUDY POPULATION:** Construction of a collaborative multidisciplinary team to address the clinical challenge of preventing head entrapment was initiated through a unique course at the Massachusetts Institute of Technology (Course 2.75, Medical Device Design). The course would provide a structured means by which students (senior undergraduate and graduate students in Mechanical Engineering) would be paired with a clinical advisor and faculty in their department. Weekly team meetings were scheduled to review the clinical context pertinent to the problem and review engineering principles needed to develop a solution. The course also provided a small monetary budget (\$4K) for the students to purchase supplies. **RESULTS/ANTICIPATED RESULTS:** During the semester long course, several iterations of a prototype were designed. Each subsequent rendition was evaluated from both an engineering and manufacturing perspective, as well as clinical appropriateness. The weekly meetings allowed for rapid re-design and assured that all necessary parameters were considered by the entire team. Students also had access to lab facilities and additional mentorship that allowed for supplementary input beyond that generated by core team members. These interactions, along with those of their classmates working on other projects, provided a strong base for exploring subsequent device development. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Successful medical device development requires a collaborative process and students can be ideal members of these teams as they reside in an environment that is conducive to exploration and novel idea generation. Course-based student led team science platforms can provide an excellent foundation for solving uniquely challenging medical problems.

4319

Team Science in Parkinson's Research: Connecting Clinicians and Computational Teams

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OBJECTIVES/GOALS: This team science pilot program aims to elevate the quality of Parkinson's disease modeling initiatives by